



Modeling and Simulation Resource Repository **DMSO**

(MSRR)- What is it?

- A distributed network of resources
- Organized by information domains
- Maintained by the resource owners
- Linked by WWW protocols
- Providing a complete service infrastructure
 - Registration
 - Help Desk
 - Information Domain Categorization
 - “Registered Resource Requests”
 - Documentation
 - Training
 - Visualization
- Classified and unclassified systems



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MSRR Goal

- Support pull, plug, and play through responsive, timely access to authoritative sources of
 - actual models and simulations
 - software (RTI, other common use products)
 - metadata and data models (including SOMs)
 - standards
 - Instance databases
 - Use and VV&A histories
 - CMMS
- Eliminate duplication



MSRR: Organized by IDs Logically Grouping Available M&S Resources

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INFORMATION DOMAIN

CATEGORIES: ORGANIZED BY:

- INFORMATION DOMAINS WITH
 - VIEWS THAT PROVIDE:
 - IDENTIFICATION &
 - LOCATION OF M&S RESOURCES
- OBTAINED THROUGH THE USE:
- SEARCH ENGINES AND
 - DATABASE QUERIES

Organization

Function

Technology

Product

TBD

M&S RESOURCES:

- FOM/SOM LIBRARIES
- PROTOCOL CATALOG
- CMMS
- CUSTOM RESOURCE REPOSITORIES
- SPECIALIZED INSTANCE DATABASES
- REGISTRATION DATABASE
- M&S DIRECTORIES
- JADE++
- MSRR DOCUMENTATION
- FAQs
- NEWSGROUPS



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Maintenance by Resource Owners

MSRR links to MSRR resources and non MSRR resources maintained by owners who

- Provide/update resources under configuration control
- Provide/update documentation
- Provide/update quality criteria
- Provide/update release and legal instructions
- Provide/update security instructions
- Provide distribution options
- Distribute resources to consumers

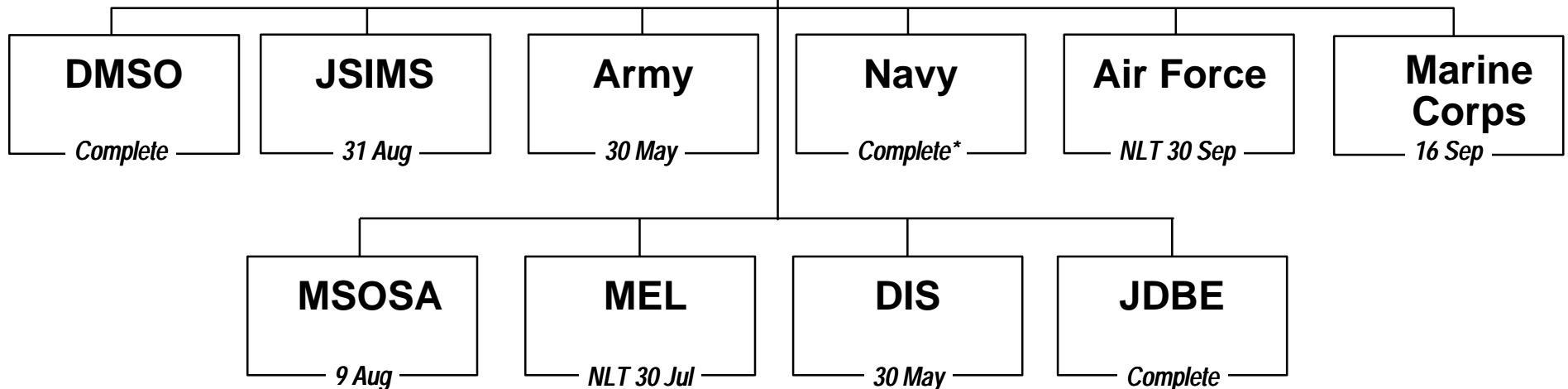


MSRR End of FY96 Snapshot

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Defense Data Repository System

MSRR



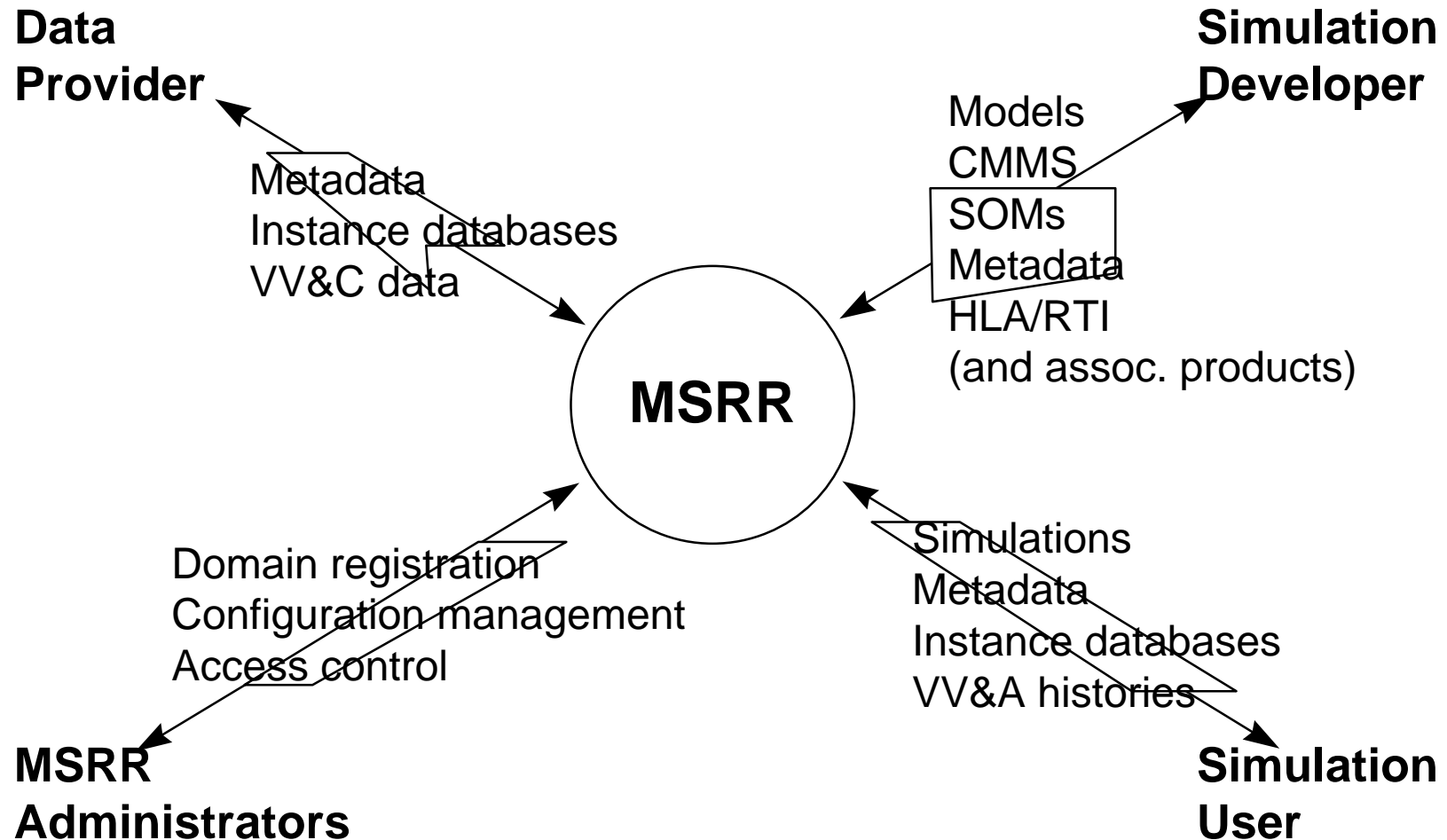
Initial build of MSRR specific software will be on line 30 Sep 96

**Except for the classified node*



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MSRR Functionality





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MSRR Service Infrastructure

The MSRR provides the following services

- Registration
 - Users (Owners and Consumers)
 - M&S Resources
- Help Desk
 - Support personnel
 - FAQs
 - News groups
- Information Domain Categorization
 - Requires additional identification metadata
 - Supports search engines and registrar database queries
- Registered Resource Requests
 - Standard and customized resource ordering
 - From sources such as MEL, ADRS, FOM library
- Visualization
 - Browsers and viewers
 - Data reformatters
 - Graphical interfaces

continued



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MSRR Service Infrastructure

- Documentation
 - Operations Guide with appendices which include
 - Node Administrator's Guide
 - IDC Guide
 - Node Installation procedures
 - Registrar Procedures
 - Style Guide
 - User's Guide with appendices which include guidelines for
 - Registration
 - Security and Releasibility
 - Quality Criteria
 - Configuration Management Plan
- Training
 - Node Installation
 - Node Administration
 - Information Domain Analysis and Organization
 - Configuration Management



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MSRR Registration

The MSRR provides centralized registration for

- Users (resource providers)
- Resources (libraries, directories/catalogues, models, simulations, data, metadata, algorithms, tools, and subject matter experts)
 - URLs
 - CM tags
 - MIME/resource types/viewers
 - Release criteria
 - Security restriction
- Users (resource consumers), consumer groups, and passwords
- Information Domains and associated taxonomies
- Nodes and administrators



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MSRR Registration Functions

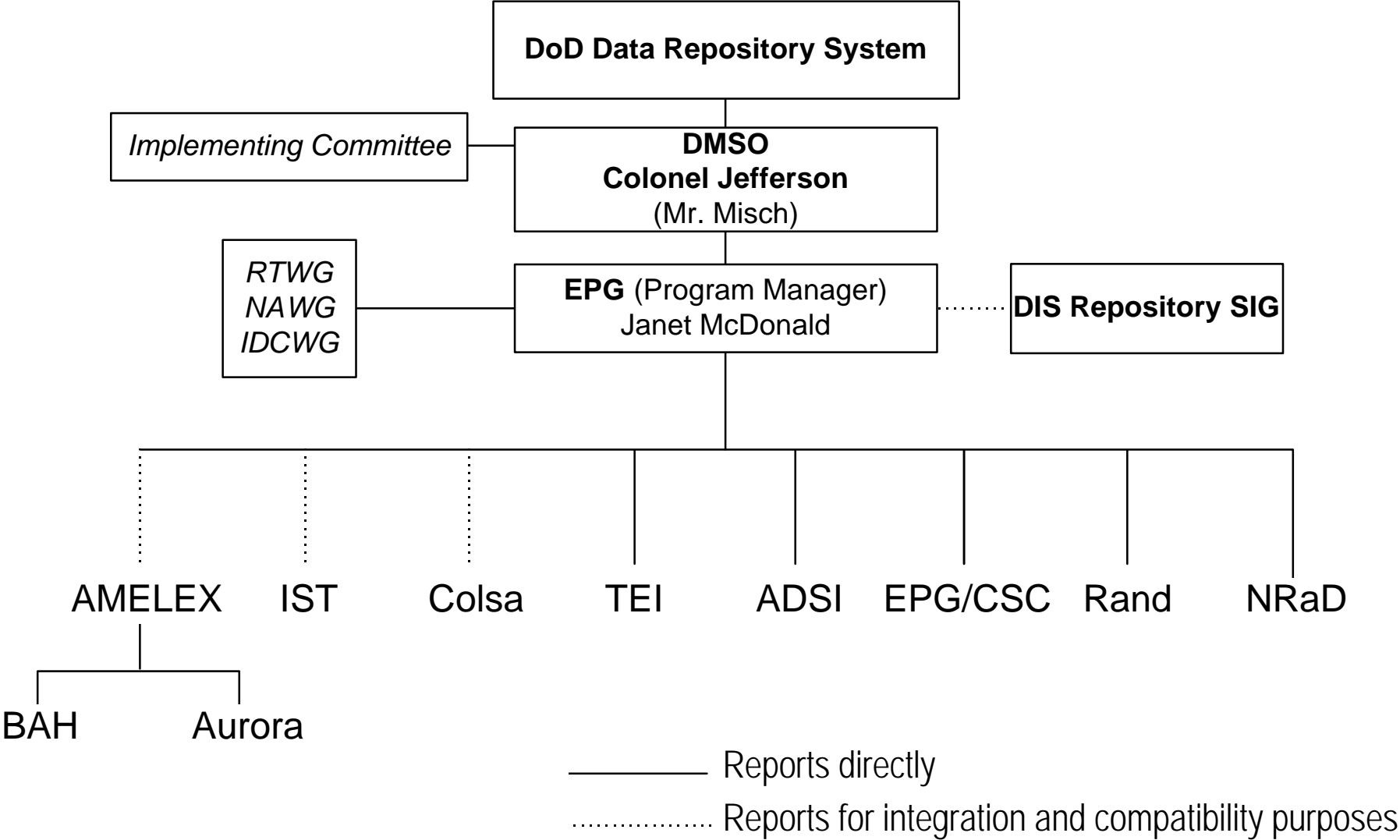
The MSRR provides the following registration functions

- Enforce resource provider release restrictions
- Authenticate and authorize users and their passwords
- Update the M&S taxonomy
- Maintain administrative records
- Check-in/out selected resources
- Track resource orders
- Compile usage statistics
- Generate reports



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MSRR Management Organization





MSRR Strategy

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Unclassified nodes

- Services (4)
 - Army installation complete- on line registered 30 May
 - Air Force (NLT 30 September)
 - Marines (16 September)
 - Navy will use existing unclas infrastructure
- JSIMS (31 August - installation complete by 15 August)
- DMSO (available now)
- JDBE (available now)
- MSOSA (9 August - installation complete)
- DIS (30 May)
- MEL (30 July)

continued



CMSRR Strategy

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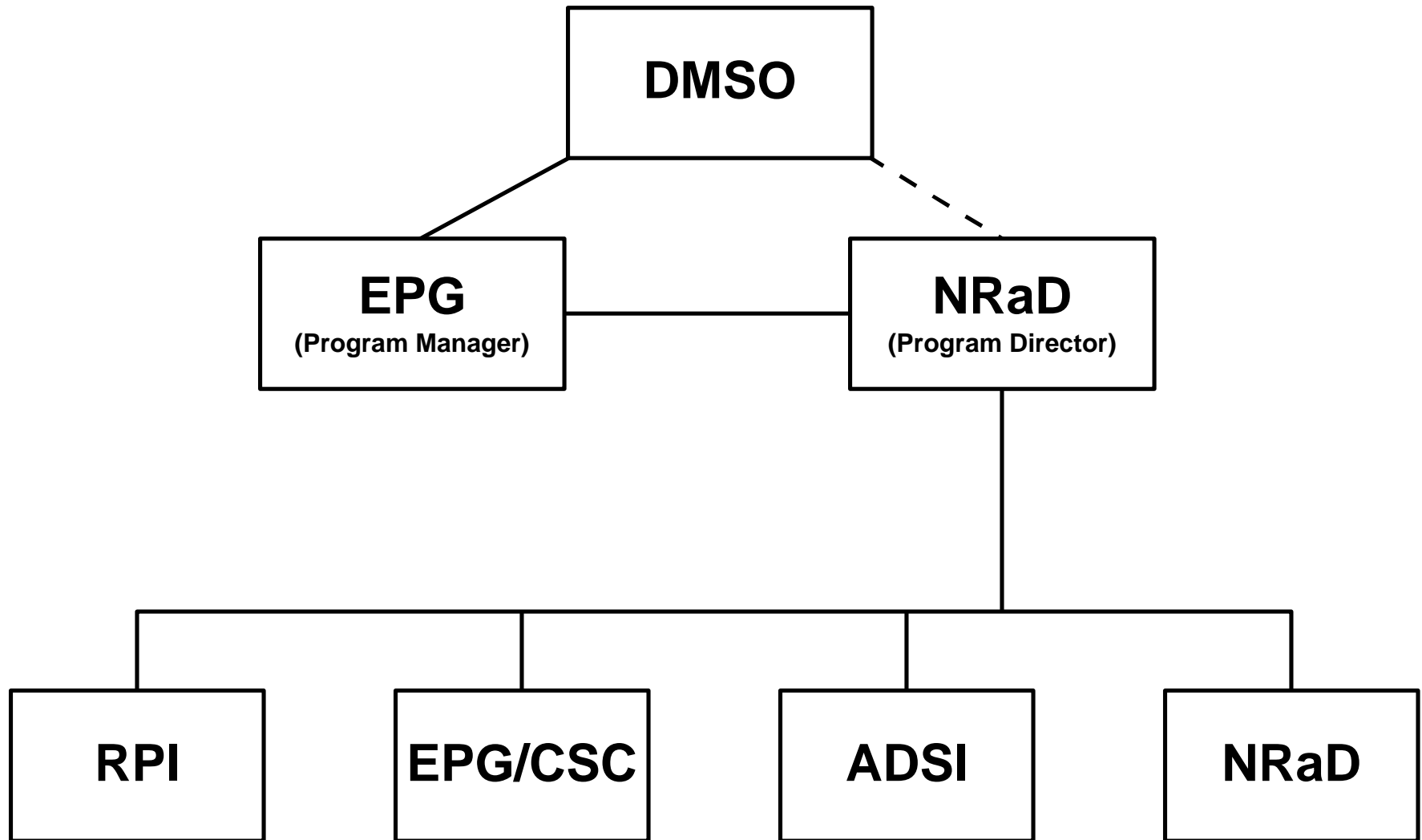
Classified Nodes

- Working toward an initial implementation NLT January 97
 - N R A D / E P G d e v e l o p m e n t N o d e S i t e s
 - Phase one DBs identified
 - USACOM, PACOM, OSD (PA&E), DIA
 - MEL (possible)
- Initial Architecture Design being Worked
 - SIPRNET based for phase one
 - Initial DSI connectivity in phase one (Air Gap)
- DB accessibility via translators as opposed to “mediation” technologies
 - Immature status; consider later as technology is proven



CMSRR Functional Organization

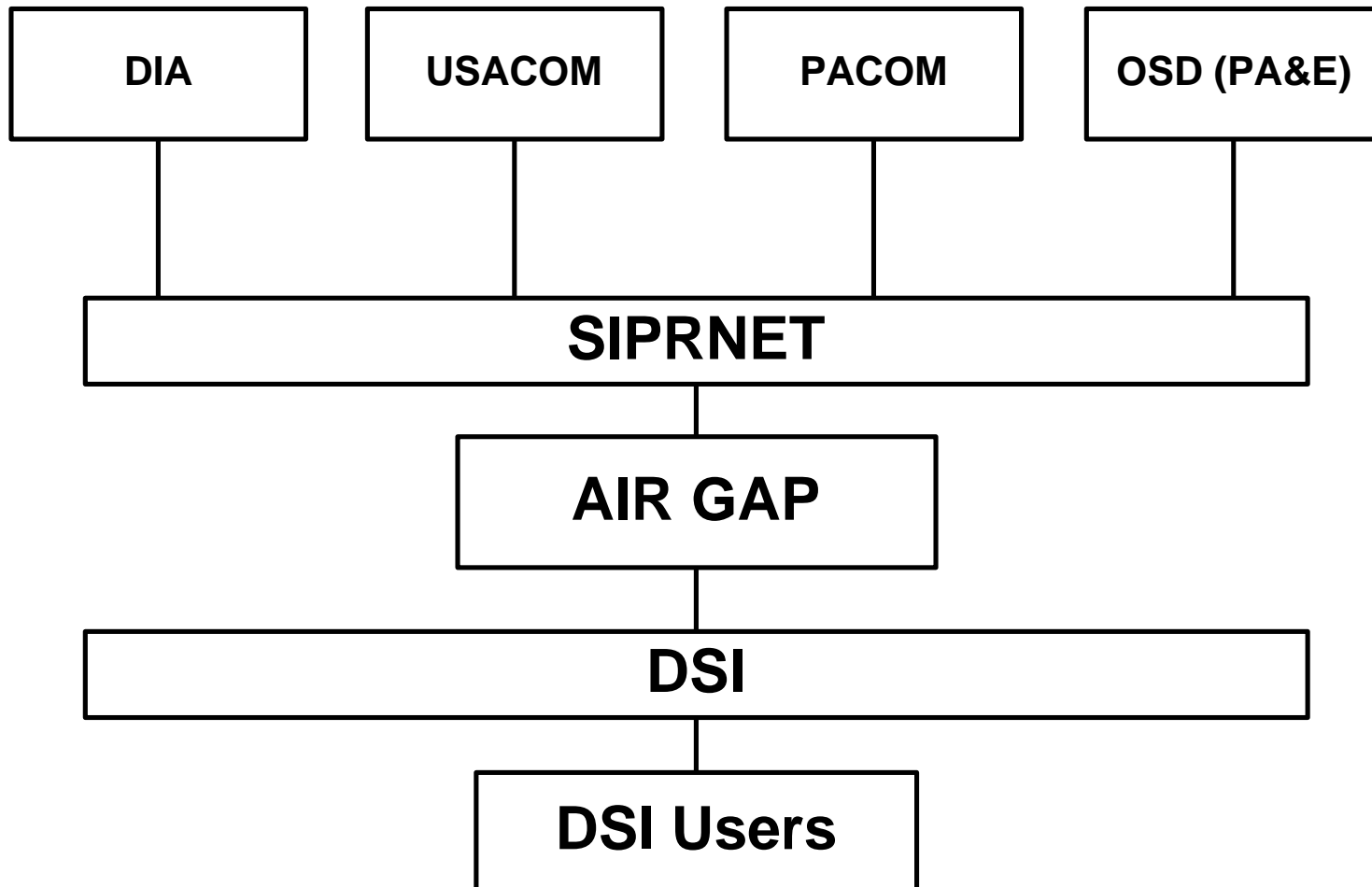
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Phase One CMSRR

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Summary

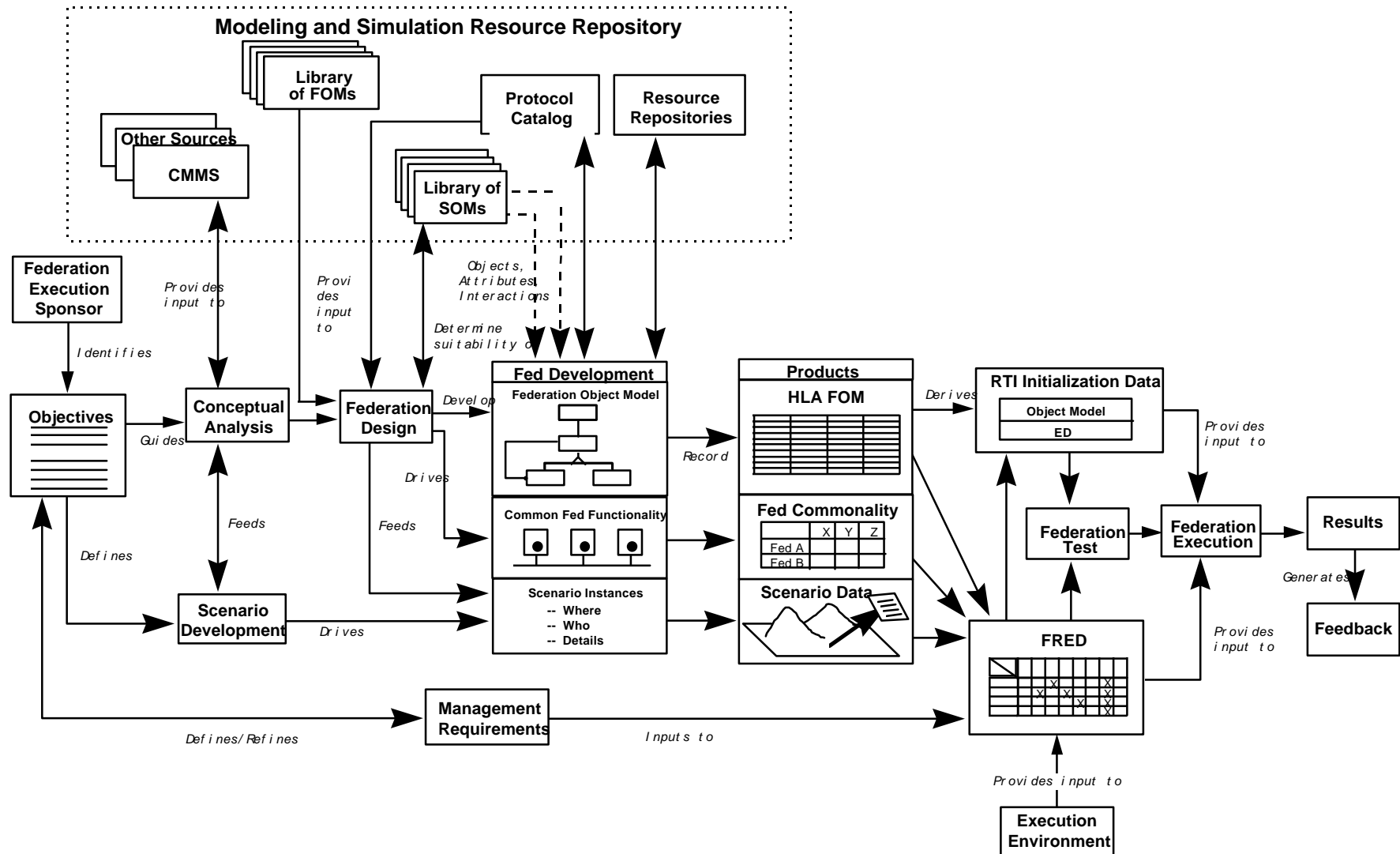
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- MSRR leverages existing physical assets
- MSRR adds a complete infrastructure of services
- Will provide the user with enhanced ability to locate and use quality data and other products



Example Use Case

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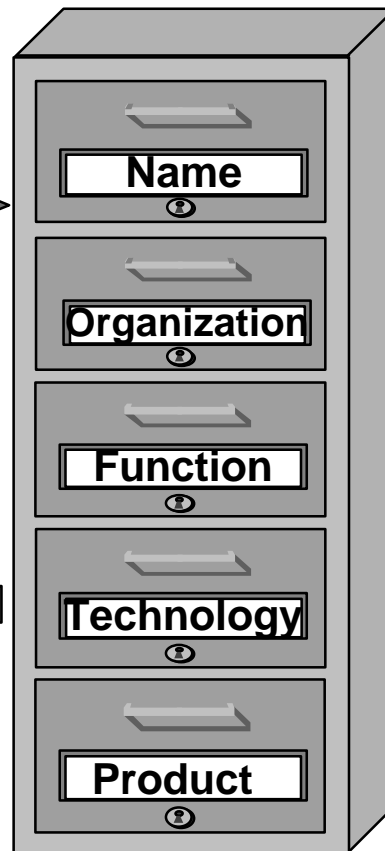
MSRR USER View of MSRR Registration and Information Domain Categories

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Resource Consumer View

User Query through WWW Interface

Resource List and "Hot Links" to Each Resource through WWW Interface



Resource Provider View

Metadata Fills ID Categories

MSRR Registration Database

(WWW Interface)

IDC/Provider Enters, Approves, Registers, Unregisters, and Modifies Taxonomy & Resources

MSRR Information Domain Categories



User Registration

- User Registration
 - Initial
 - Simple password and basic access to the MSRR
 - Registration database, announcements, newsgroups, etc.
 - Access privileges to specific, restricted items, controlled at the server where the items are hosted
 - Projected
 - Basic access
 - Cross MSRR access adjudicated via the registration database
 - Updated via info domain coordinator and registrar software



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Initial Domain Registration

- Information domain coordinator is appointed
- Conducts domain analysis
 - Standard methodology
 - Standard tool (COTS- identification pending)
- Builds a conceptual model (product nr. 1)
 - Taxonomy (MSRR provides baseline)
 - Entity relationships
- Identifies physical resources related to the domain
 - Reviews resources for quality profile
 - MSRR wide profile
 - Domain specific profile
 - Mapped to authoritative data sources (registered)

continued



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Initial Domain Registration

- Maps physical resources into conceptual model (product nr. 2)
- Maps physical resources to URLs (product nr. 3)
- Transmits products to the MSRR registrar
- Registrar registers new domain
 - Modifies registration database
 - Standard methodology and tools promote rapid migration of IDC product(s) into MSRR database(s)
 - Tests links
 - Advertises new domain



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Item/Resource Registration (*owner*)

- Accesses registration form on MSRR home page
- Requests registration of resource, to registrar, via form driven questionnaire
 - Identifies resource (standard taxonomy available)
 - Nominates to one or more domains
 - Specifies quality profile
 - General
 - Domain specific may require follow up depending on domain assignment
 - Provides physical location and URL
 - Specifies access restrictions



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Item/Resource Registration (*registrar*)

- Verifies MSRR quality profile
- Verifies ADS relationship
- Nominates to appropriate domain coordinator(s)



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Item/Resource Registration (*IDC*)

- Receives nominations from registrar
- Verifies domain specific quality profile
- Maps physical resources into conceptual model (product nr. 2)
- Maps physical resources to URLs (product nr. 3)
- Transmits products to the MSRR registrar



M&S Directories

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- Originated as a DoD wide catalog of models and simulations
- Based on a data model currently maintained for the M&S FDAd
- Desire is for a DoD wide, distributed M&S catalog, maintained by model sponsors